CLAIMS

What Is Claimed Is:

1   1. A spa system including a remote control for
2   controlling operation thereof, said system comprising:

3   a. a remote control module having a microprocessor
4   and memory therefor and receptive to push-button inputs
5   and having a display thereon, and having a first antenna
6   for transmitting signals to said spa and for receiving
7   signals from said spa;

8   b. a master control module residing in said spa
9   for controlling and sensing a multiplicity of functions
10   of said spa; and,

11   c. a slave control module coupled to said master
12   control module and having a second antenna responsive to
13   command signals received from said remote control and for
14   transmitting status signals back to said remote control,
15   said slave control module being disposed for converting
16   said command signals received from said remote control
17   for said master control, and for converting status
18   signals received from said master control for
19   transmission back to said remote control.

1   2. The system as in Claim 1 wherein a first of said
2   command signals received from said remote control is set
3   temperature.

1   3. The system as in Claim 1 wherein a first of said
2   status signals received from said master control is water
3   temperature.

1   4. The system as in Claim 1 wherein said remote control
2   transmits command signals and receives status signals
3   with the use of radio frequencies.

1   5.   The system as in Claim 4 wherein said remote control
2   includes an RF transceiver coupled between an output of
3   said microprocessor and said first antenna.

1   6.   The system as in Claim 1 wherein said remote control
2   is responsive to a reduced number of push-buttons.

1   7.   An RF remote control for controlling an apparatus
2   having a master control module disposed for controlling
3   and   sensing   a   multiplicity   of   functions   of   said
4   apparatus,   said   master   control   module   having   a   first
5   antenna for receiving command signals from said remote
6   control and for transmitting status signals back to said
7   remote control, said remote control comprising:
8   a.   a processor;
9   b.   memory coupled to said processor;
10   c.   push-buttons   coupled   to   inputs   of   said
11 processor   and   disposed   for   providing   input   data   for
12 transmission to said apparatus;
13   d.   a   second   antenna   for   transmitting   command
14 signals   to   said   apparatus   and   for   receiving   status
15 signals back from said apparatus; and,
16   e.   a display for showing data indicative of said
17 status signals received from said apparatus.

1   8.   The remote control as in Claim 7 wherein said remote
2   control includes a reduced number of push-buttons.

1   9.   The remote control as in Claim 7 wherein said remote
2   control includes an RF transceiver coupled between an
3   output of said processor and said first antenna.

1   10.   In a remote control for an apparatus having a master
2   control module disposed for controlling and sensing a

3   multiplicity of functions of said apparatus, a method for
4   transmitting command signals to said master control
5   module from said remote control and for receiving status
6   signals back from said master control module, said method
7   comprising:

8   a.   after initialization, turning on a back light
9   in said remote control;

10   b.   determining if a push-button on said remote
11 control has been depressed, and if so;

12   c.   resetting a timer and placing said remote
13 control in transmit mode;

14   d.   transmitting a data signal to said apparatus
15 indicative of said depressed push-button;

16   e.   resetting a timer and placing said remote
17 control in receive mode; and,

18   f.   receiving and displaying said status signal
19 received from said master control.

1   11. The method as in Claim 10 wherein it is determined
2   that a push button has not been depressed, further
3   including the steps of:

4   a.   determining if a 15 second timer has expired,
5   and if so;

6   b.   turning off the back light of said remote
7   control.

1   12. The method as in Claim 10 wherein no push button has
2   been depressed for over two minutes, further including
3   the steps of:

4   a.   placing said remote control in a sleep mode;

5   b.   determining if a push button has been
6   depressed, and if not;

7   c.   putting said remote control off line.

1   13.   The method as in Claim 10 further including the step
2   of placing said remote control in a normal receive mode.

1   14.   The method as in Claim 13 further including the
2   steps of:
3   a.   determining if data is requested, and if so;
4   b.   sending request to said master control;
5   c.   listening for a reply from said master control,
6   and if valid data is received;
7   d.   displaying said valid data.

1   15.   The method as in Claim 14 further including the step
2   of determining if more than two requests for data have
3   been made, and if so, clearing said display of said
4   remote control.

1   16.   In a remote control for controlling a spa having a
2   master control module disposed for controlling and
3   sensing a multiplicity of functions of said spa, a method
4   for transmitting command signals to said master control
5   module from said remote control and for receiving status
6   signals back from said master control module, said method
7   comprising:
8   a.   after initialization, turning on a back light
9   in said remote control;
10   b.   determining if a push-button on said remote
11   control has been depressed, and if so;
12   c.   resetting a timer and placing said remote
13   control in transmit mode;
14   d.   transmitting a data signal to said spa
15   indicative of setting water temperature thereof;
16   e.   resetting a timer and placing said remote
17   control in receive mode; and,

18 f. receiving and displaying data representative of
19 water temperature sensed in said spa by said master
20 control.

1 17. A storage medium encoded with machine-readable
2 computer program code for use in a remote control for
3 controlling a spa having a master control module disposed
4 for controlling sensing a multiplicity of functions of
5 said spa, wherein, when the computer program code is
6 executed by said remote control, the remote control
7 performs a method for transmitting command signals to
8 said master control module from said remote control and
9 for receiving status signals back from said master
10 control module, said method comprising:
11 a. after initialization, turning on a back light
12 in said remote control;
13 b. determining if a push-button on said remote
14 control has been depressed, and if so;
15 c. resetting a timer and placing said remote
16 control in transmit mode;
17 d. transmitting a data signal to said spa
18 indicative of setting water temperature thereof;
19 e. resetting a timer and placing said remote
20 control in receive mode; and
21 f. receiving and displaying data representative of
22 water temperature sensed in said spa by said master
23 control.

1 18. The medium as in Claim 17 further including the step
2 of placing said remote control in a normal receive mode.

1 19. The medium as in Claim 18 further including the
2 steps of:

3   a.   determining if data is requested, and if so;

4   b.   sending request to said master control;

5   c.   listening for a reply from said master control,

6   and if valid data is received;

7   d.   displaying said valid data.

1   20.   The medium as in Claim 19 further including the step

2   of determining if more than two requests for data have

3   been made, and if so, clearing said display of said

4   remote control.